NAVAL POSTGRADUATE SCHOOL
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THESIS

STOCK IN TRANSIT: WHY WE HAVE IT, WHY IT MATTERS

by

Kirk M. Swiantek

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Thesis Advisor: Donald R. Eaton
Co-Advisor: Kevin R. Gue

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Stock in-Transit, specifically Stock in-Transit that goes to a Non-TIRing activity remains a major problem within the Navy. The Navy continues to "write-off" billions of dollars due to stock in-transit losses each year and consistently loses track of valuable repair items. This thesis looks at the effects that Stock in-Transit has on the Navy, in not only the repair pipeline, but overall readiness as well. Currently, two programs are in place that could solve this non-TIRing problem, Commercial Asset Visibility (CAV) and a Proxy TIR Group. We look at the cost associated of implementing one or both of the two solutions and the benefits they would bring.

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STOCK IN-TRANSIT: WHY WE HAVE IT, WHY IT MATTERS

Kirk M. Swiantek
Lieutenant, United States Navy
B.A., Eastern Michigan University, 1993

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NAVAL POSTGRADUATE SCHOOL
June 2002

Author: Kirk M. Swiantek

Approved by: Donald R. Eaton
Thesis Advisor

Kevin R. Gue
Second Reader

Douglas A. Brook
Dean, Graduate School of Business and Public Policy

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Stock in-Transit, specifically Stock in-Transit that goes to a Non-TIRing activity remains a major problem within the Navy. The Navy continues to “write-off” billions of dollars due to stock in-transit losses each year and consistently loses track of valuable repair items. This thesis looks at the effects that Stock in-Transit has on the Navy, in not only the repair pipeline, but overall readiness as well. Currently, two programs are in place that could solve this non-TIRing problem, Commercial Asset Visibility (CAV) and a Proxy TIR Group. We look at the cost associated of implementing one or both of the two solutions and the benefits they would bring.

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I. STOCK IN-TRANSIT

A. OVERVIEW

The Government Accounting Office (GAO) reported that in the Fiscal Years (FY) between 1996-1998 the U.S. Navy reported in-transit inventory losses of more than $3 billion. Naval Inventory Control Point, Philadelphia (NAVICP-P) was responsible for approximately 85% of the losses due largely to the vast amount of stock they transfer and its high dollar value [Ref. 1:p. 1].

Although the GAO report of 1999 brought to light the Stock in-Transit (SIT) problem, the Navy still reported billions of dollars of SIT losses for FY’s 1999-2001. The Stock in-Transit problem as a whole is a large and convoluted subject: there are 23 different scenarios that initiate a Stock in-Transit track, each requiring specific business rules to close a record. Thirteen different computer programs lead into NAVICP-P’s Financial Inventory module. Each program uses a different language to create a Transaction Item Report that has to match in the NAVICP-P’s Financial Inventory module to close a SIT file.

The majority of SIT losses are attributable to inventory control problems. Specifically:

- Navy units have not always reported to NAVICP-P that they received requested items.
- Ineffective accounting systems are used to monitor receipts, issues and redistributions.
- NAVICP-P has not adequately investigated unreported receipts. [Ref. 1:p. 2]

Naval Supply Systems Command and Naval Inventory Control Point, Philadelphia, re-engineered their Inventory Tracking Program (PM76), and created a Supply Discrepancy Reporting (SDR) system a web based program; both were activated in May 2001 as a result of the GAO report. Naval Supply Systems Command also established the Corporate Information System (CIS) as an oversight tool used to track actual stock in-transit “write-offs”. The objective of SDR and the PM76 upgrade were to prevent further stock in-transit “write-offs” by reconciling all open SIT before the six-month timeframe. Naval Inventory Control Point, Philadelphia implemented SDR at 121 Navy sites and at 50 Commercial Repair Activities. Costs of these two programs were an initial 12 million to create them, and approximately 2.8 million annually in daily operation and maintenance costs. The effectiveness of these two implementations are still unclear. They have only been up for one year, and it is still an evolving project, with no clear metric established to show performance. [Ref.3:p. 1]

B. SCOPE OF STUDY

We focus just on NAVICP Philadelphia’s problem with Stock in-Transit, dealing with the loss of visibility of Depot Level Repairable assets when going to a Commercial Repair Activity, specifically, Commercial Repair Activities that are not capable of completing a Transaction Item Report (TIR) for material they ship or receive. These non-TIRing activities make up approximately 40% of all Stock in-Transit losses for NAVICP-P. [Ref. 2]

C. METHODOLOGY AND ORGANIZATION OF STUDY

We investigate the feasibility, benefits, and costs to the Navy of implementing two alternate methods of tracking SIT to a Commercial Repair Activity once it enters the repair pipeline. The first is Commercial Asset Visibility (CAV), a web-based program that allows the Commercial Activity to complete a TIR. The second is a Proxy-TIR group. Information concerning the Proof of Receipt (POR) and the Proof of Delivery (POD), to the Commercial Activity is entered at NAVICP-P and creates the appropriate TIR for the Commercial Activity. We also address the effect that the loss of visibility of material categorized as SIT has on overall readiness in the Navy.

The remained of chapter I is background information, on NAVICP-P, their accounting and inventory tracking systems, and how it relates to stock in-transit. We also discuss the Depot Level Repair (DLR) program used, and how this to relates to stock in-transit. Chapter II discusses the role of the Navy’s Item Manager, and problems that can arise from inaccurate inventory information. Chapter III discusses the possible solutions to SIT, the costs and the benefits to the Navy by incorporating them. Chapter IV concludes with recommendations for the Navy and suggests areas of further research.

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II. THE SIT PROBLEM AND ALTERNATIVE SOLUTIONS

A. THE CREATION OF STOCK IN-TRANSIT

Prior to the implementation of Centralized Accounting and Billing (CAB), inventory stock points maintained financial accountability for inventory via the Financial Inventory Control Ledger and rendered the Financial Inventory Reports as the accountable officer for all inventory on hand, including material subject to centralized inventory management. Upon implementation of CAB, the financial accountability for the value of centrally managed material was transferred to the Inventory Control Point (ICP). When one CAB stock point issues material to another CAB stock point, the ICP deletes the value of the issued material from the issuing activity’s Financial Inventory Control Ledger. This is done with a Transaction Item Report (TIR) sent to the NAVICP computer by the issuing activity. At the same time the material issue is posted to the Financial Inventory Control Ledger, the ICP posts the identical material issue transaction to the Stock in-Transit file which is the ICP record of Stock in-Transit between CAB stock points. Upon receipt of the material, the receiving stock point reports the material receipt, to the ICP via the TIR. The ICP records the value of the material received on the receiving activity’s Financial Inventory Control Ledger and at the same time decreases the value of the SIT file by posting the identical material receipt transaction to the SIT File. [Ref. 4:pp.5-60]

The Stock in-Transit system consists of the NAVICP application of the in-transit follow-up processing program, which tracks material in-transit between Centralized Accounting and Billing activities. Commercial Overhaul contractors are also considered Centralized Accounting and Billing activities. Centralized Accounting and Billing activities submit Transaction Item Reports, an automated transmission to the ICP reporting change in stock position such as an issue, receipt or adjustment. Stock in-Transit includes transactions for stock redistributions, stock referrals, retrograde transshipments and returns from commercial or other service repair facilities.

The Navy accounting system that provides financial accountability of stock in-transit inventory is the Material Financial Control System (MFCS), which is a hybrid of three distinct accounting modules. These modules work with Uniform Inventory Control Point (UICP - NAVICP-P’s Computer System) that include:

- B01 – Real time Requisition Processing
- B04 – Transaction Item Reporting
- PM76 – In-transit Follow-up Processing
- PR04 – Repairable Management

The overall objectives of the Material Financial Control System are to ensure compliance with Congressional requirements, standardize business practices ashore and afloat, replace legacy accounting systems, streamline corporate infrastructure and support total asset visibility.

The financial inventory accounting and billing module has been in production at NAVICP-P for wholesale material

since 1993. It is a mainframe system that provides daily transactional data in “Military Standard” format, detail level reporting, adjustment history, automated reversal capability and postings to the U.S. Treasury’s General Ledger. It includes In-transit (OSO/SIT) loan tracking, outgoing billing and month end Congressionally mandated reports.

The other two modules perform allotment accrual accounting and expenditure processing for the $5 billion in annual funds processed by NAVICP-P for equipment, supplies, and services. They were placed in production at the NAVICP-P in June 2000.

The in-transit follow-up module is NAVSUP’s application that integrates supply, financial and transportation disciplines into a single application in order to increase in-transit visibility. This module tracks, follows-up on, and attempts to resolve stock in-transit records through perfect or relaxed matches. A relaxed match for example, is when dollar amounts of two SIT records match but the document number does not. These records represent the actual physical movement of Navy-owned material from one custodial holder to another for various purposes: carcass transshipments, movement into and out of repair, replenishment of Stock, and redistribution of stock. These records are established and closed in the financial inventory module as result of inputs from the Transaction Item Reports and the In-transit Follow-up Processing modules.

The In-transit Follow-up Processing module performs the continual monitoring of the many thousands of in-

transit records that exist at any time in order to insure timely closure of the SIT cycle and to prevent write-offs and physical losses.

The Financial Inventory module creates a SIT transaction as the result of an Issue Transaction or a Receipt Transaction (TIRs). These TIRs come to Financial Inventory module from the Transaction Item Reporting function. When Navy-owned material is moved from one activity to another, it goes through a series of “in-transit” steps. The issuing activity gets a Material Release Order or a carcass to transship, and generates an Issue Transaction TIR. The material is packaged and then custody is transferred either directly to the consignee (intended receiver) or to an intermediary, such as a shipping carrier or agent. The shipping carrier actually transports the material to the consignee, and then formally turns custody over to the receiver. It is expected that material that is “in-transit” will go through these steps within a reasonable time. The Navy considers 45 days the normal time allowed for a SIT to close before being considered an “Unmatched SIT” file. The in-transit follow-up processing module collects information that documents the transfer of custody from issuer to carrier to consignee in order to be able to track financial responsibility for the material. [Ref. 5:pp. 1-3]

All SIT issues post to the Receipt Tracking Index (RTI) within the Financial Inventory application and the RTI posts all matching Receipt TIRs against Issue TIRs. If a SIT receipt does not find a matching issue in RTI, it is stored as an unmatched receipt record. The monthly average

Stock in-Transit records created by the RTI is 74,400 with an estimated dollar value of $2.3 billion. The volume of SIT records that are open and in the stock in-transit system at any given day at NAVICP-P is approximately 115,000. Of these records, approximately 60,000 are unmatched issues, 47,000 are unmatched receipts and 8,000 are partially matched records. [Ref.6] If the In-transit Follow-up Processing module cannot find a matching receipt after 120 days, current Navy policy is to close the SIT file. To close an unmatched SIT file, NAVICP-P runs a special program that performs presumptive receipts for shipments. Using this program, a presumptive receipt is accomplished by posting a transaction, “administratively” indicating that material was received without proper documentation. At the same time, a corresponding loss of stock in-transit entry is made and an “Accounting Adjustment Loss” transaction is posted to the credit side of the General Ledger. This transaction is referred to as a “write-off”. [Ref. 7:p. 1]

B. THE DEPOT LEVEL REPAIRABLE (DLR) PROGRAM

The Navy’s Depot Level Repairable (DLR) retrograde system is designed to facilitate the movement and tracking of expensive components that the Navy has deemed more cost effective to repair than procure. Annually, more than 400,000 DLRs valued at $9.7 billion enter the retrograde pipeline enroute to commercial and/or organic repair facilities all over the world. After maintenance personnel determine that a component is beyond the capability of maintenance, DLRs are turned into either of the two Advance Traceability and Control (ATAC) hubs in Norfolk or San Diego or one of the eleven nodes located throughout the

world. On average, more than 8,000 DLRs are turned back into the supply system for repair each week. [Ref. 8:p. 1]

The ATAC technically screens the DLR to confirm that the turn-in documentation accurately identifies the component and to determine disposition instructions (i.e., transship to a storage facility awaiting induction for repair, ship directly to a repair facility (commercial or organic) or ship to Defense Reutilization Material Office (DRMO) for disposal). The vast majority are sent to one of several Designated Storage Points (DSPs) awaiting induction for repair. Once inducted for repair, the component is sent to one of three Naval Aviation Depots, or to one of roughly 1,300 commercial repair activities. Following repair, the majority of assets are transshipped back to a DSP and are made available to the component's Item Manager for release to the next requisitioner. The average cost of a DLR is excess of $50,000. Automation is essential to accurately track the physical and financial flow of material through the retrograde pipeline. Accurate tracking is essential to ensure proper billing to fleet customers as well as to have positive visibility of the SIT throughout the pipeline.

One problem with the current system is that the In-transit Tracking module can only search for matches between issues and receipts when corresponding TIRs are entered from both the receiving and issuing activities. Currently, there are more than 500 commercial repair activities that make DLR repairs but are unable to create a "receipt" or "issue" TIR. Consequently, all material that goes to these facilities cannot close in the current SIT

system. Since the GAO report of 1999, Non-TIRing activities continues to be the top reason for SIT write-offs. The Navy in FY’s 1999, 2000 and 2001, the Navy “wrote-off” $1.7 billion, $2.2 billion and 1.0 billion, respectively due to non-TIRing activities. [Ref. 6] In FY 2002, “Unmatched SIT” files caused by non-TIRing activities has averaged $60 million per month. [Ref. 2]

C. SIT EFFECT #1 - OVER-ORDERING DLRS

For many years, DOD has had difficulties in obtaining timely and accurate information on the location, movement and status of its equipment and supplies. The continuing lack of adequate visibility over operating materials and supplies substantially increases the risk that millions of dollars will be spent unnecessarily to acquire more items than would be needed if a clearer, more accurate picture existed of items in inventory.

Here is how this can happen: The Navy uses an automated process called Supply Demand Review as the primary means of assisting Item Managers in determining how much inventory needs to be purchased and when and if contracts need to be awarded, canceled, or modified. The process uses inventory data and mathematical models to determine inventory needs and to compare the needs to on-hand and due-in inventory. Due-in inventory represents items on purchase requests, items that have been ordered but not yet received, and items that the Navy already owns but are in-transit between activities including Depot Level Repairables that are in the repair pipeline.

When an Item Manager determines that more items are needed than are on-hand and due in, a contract is

generated. Item Managers use a computer system called "Toolkit" which uses Supply Demand Review principles and incorporates current inventory levels into its decision-making. Due to the stock in-transit problem, Item Managers are over ordering materials by creating unnecessary purchases based on the inaccurate inventory levels provided by "Toolkit".

Item Managers lose visibility over their assets once they are sent to a Commercial Repair Activity that is unable to create a TIR. Item Managers rely on monthly production reports from the Contractor to update their inventory levels and due in allowances. The Item Manager is then forced to manually enter the Contractor's data into toolkit to remain up to date. Inaccurate inventory levels have a direct effect on money spent to purchase unnecessary materials that could be spent elsewhere, this effects overall military readiness, for example:

- An internal Naval Audit reported that inventory records held by Item Managers differed from quantities actually on-hand about 22 percent of the time. These inaccurate inventory levels can lead to excess inventory and unneeded purchases. [Ref. 10:p. 4]
- Another GAO report surveyed 200 records, 12 items for which parts in the repair cycle were not counted into the current inventory levels and contributed to excess inventory conditions. [Ref. 9:p. 3]
- A Commercial Repair Activity received three shipments of 67 generators (valued at $593,620) for repair. This inventory was "written-off" as an in-transit loss. A year later, NAVICP-P purchased 88 new generators valued at $13,625 each ($1.2 million total) and, the following year initiated a purchase for 145 generators valued at $13,000 each ($1.9 million total). [Ref. 11:p. 5]

- 11 cockpit video records (valued at $56,650) were sent to a non-TIRing commercial repair contractor in Santa Clara, CA. This inventory was eventually “written-off” as loss in-transit stock. NAVICP-P purchased 185 cockpit video recorders at $5,398 each ($998,630 total) and six months later purchased 40 more at $6,850 each ($274,000 total). [Ref. 11:pp. 6-7]
- A GAO report showed that the computerized Navy inventory files showed that the Navy was purchasing $1.6 billion of secondary inventory, $121 million of which exceeded requirements and economic order quantities. [Ref. 9:p. 3]

D. SIT EFFECT #2 – POLITICAL EMBARRASSMENT AND COSTS

The Office of the Secretary of Defense is required to report the status of DOD’s on hand inventory as of 30 September (of the previous year) to Congress. The Supply System Inventory Report is developed by OSD based on each DOD component’s inputs. Auditors found that the information on $7.8 billion in inventories was not included in the Navy’s year-end financial statements. Inaccurate inventory records distort financial records and financial reports used by senior managers. This, in turn, results in decisions to buy wrong quantities. [Ref. 12:p. 11]

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III. SOLUTIONS TO PREVENT SIT "WRITE-OFFS"

A. COMMERCIAL ASSET VISIBILITY

The Commercial Asset Visibility (CAV) application provides an automated method of tracking Government owned repairable assets as they flow through the repair cycle at the contractor's repair facility. The main purpose of CAV is to provide an inventory management system for repairable assets while they are at Commercial Repair Activities. However, CAV also provides the Navy Item Manager's with visibility of their repairable items throughout the various stages of the repair cycle, and provides the Navy with the current status of the parts being repaired.

In a time of declining resources and the availability of enhanced technology, it has become possible and essential to track each asset undergoing repair in near real-time. CAV on the Web allows the contractor to report transactions as they occur; these transactions automatically update the CAV database at the Naval Inventory Control Point. The incorporation of Web-based technology and a Windows based operating environment allows the Naval Inventory Control Point, Philadelphia and the repair vendor immediate access to the repair data. An integrated Oracle relational database allows the commercial repair vendors to access their repair data to produce all of the required NAVICP-P status and activity reports.

The Commercial Asset Visibility program supports a wide range of transaction reporting to resolve financial and inventory imbalances, and to provide specific asset tracking and accountability while material is at the

Designated Overhaul Point. Commercial Asset Visibility also provides the means to track material in-transit to and from the Designated Overhaul Point and allows daily transaction reporting while minimizing workload impacts of the Designated Overhaul Point. The CAV input that the contractor provides permits the Item Managers to make sound decisions, such as: to induct assets for repair, purchase new repairable, or reallocate repairable to satisfy priorities.

Under the CAV system, the Designated Overhaul Point has 24 separate menu items that update stock in-transit and repair asset information into the NAVICP-P’s database. The contractor is obligated contractually to report all inventory/repair transactions that fall under the scope of CAV reporting. The key to effective CAV reporting is the document number. The Repair Cycle Document Number (RCDN) is a unique tracking number that is assigned to the asset when it is received in CAV and remains with that component throughout the repair process. Upon entering a receipt, the computer will automatically assign a RCDN to each asset. The receipt is entered into CAV using the document number identified on the packing slip, the National Item Identification Number (NIIN) **actually** received, the routing identifier of the activity from which the item was received, and the quantity **actually** received. For example, upon receipt of three assets on the same paperwork, the Repair Facility enters a receipt transaction for a quantity of three and the computer creates three RCDN’s. Each one of these RCDN’s are printed on a separate Material Movement Document. The CAV program requires that the Repair

Facility maintain the RCDN identity of all assets on hand. [Ref. 13:pp. 1-11]

1. Benefits from the CAV Program

The CAV program not only keeps complete visibility of the asset through the repair cycle, it also provides the Navy Item Manager and NAVICP-P with important information about the repair cycle. For example, it

- tracks the repair turnaround time for each NIIN
- indicates when an asset is awaiting parts and whether the parts needed to accomplish the repair are Government or contractor furnished materia
- tracks the total cycle timE
- immediately notifies the Item Manager when an asset repair is completed, and restored back to "ready for issue" condition
- indicates mode and carrier of shipment back to Navy custody
- records proof of shipment, which is used to reconcile NAVICP-P's files for stock in-transit.

Through the enhanced CAV, inventory accuracy, the ICP is able to avoid making additional procurements due to accurate and timely data for items currently in the repair process. The result is a recurring inventor accuracy savings in FY of $150.6 million.

Some assets found at the time of CAV implementations will be used to offset current procurements. Found inventory resulted in a one-time $108.8 million savings for the Navy in FY01.

Personnel efficiencies are obtained from better management of items that require manager intervention or are manager controlled. The Navy avoided 0.9 million in

personnel costs that would have been required to manage inventory workload.

Navy CAV records indicated 1.2% of items received by contractors were misdirected in FY01. This number is down from 4.3% in FY00, due to CAV data. This realizes annual savings of $455,000 through improved procedures. This also leads into shortening the pipeline time that could reduce the Repair Cycle Requirement and produce potential one-time savings of $79.6 million. [Ref. 17:pp. 1-3]

In summary, key improvements available to the Navy as a result of using CAV system are savings realized through making better business decisions, improving supply performance statistics, and optimizing budget resources.

2. Costs and Feasibility of Implementing CAV

Naval Inventory Control Point, Philadelphia started to use Commercial Asset Visibility program in 1992. From 1992-1998, Naval Inventory Control Point, Philadelphia provided 140 contractors with Government Furnished Equipment computer systems at approximately $5,000 a piece. Over the years, the Philadelphia has refitted these computers at an additional $5,000 a piece for a total of approximately 1.4 million. Annual operating and maintenance costs associated with CAV ran approximately $210,000 a year. [Ref. 17:p. 1] In June 1999, CAV began transitioning sites to a Web-based application. As of January 2002, 339 active vendors are reporting their repair information through CAV via the web.

Naval Inventory Control Point, Philadelphia allocates approximately $85,000 in implementation costs yearly to the CAV Team. The CAV team members consists of eight

personnel, of which two to three members would go to the Commercial Repair Activity, do the physical inventory to establish the base line inventory and train personnel involved. The CAV team can do physical inventories, bring on-line and train approximately 15-20 Commercial Activities a year, depending on the total amount of assets that are at the Activity. Approximate operating and maintenance costs associated with Web-CAV is $5 million annually. [Ref. 16:p. 1]

The other factor that adds to the cost of using CAV is the Government has to negotiate with the contractor to use CAV since it is outside of their normal inventory software. There is no standard set price used by the government, for the contractor to use CAV. For example, one company may receive $50 per each CAV TOR created and another could receive $500. These CAV usage prices are rolled into the repair price of the contract.

B. NON-TIR COMMERCIAL REPAIR PROXY TIR GROUP

The principal tasking of the Proxy TIR Group is to maintain accuracy of all non-TIR facilities incapable of reporting directly to NAVICP-P, who are destinations for Navy secondary item asset retrograde. The Proxy TIR Group establishes processing using both automated and manual means to report on hand assets at non-TIR facilities. The reporting of assets includes both supply and financial records. The group is responsible for resolving all unmatched in-transit documents within established NAVSUP guidelines related to their assigned non-TIR facilities. Start up inventory balances must be established at the

designated non-TIR facility at least one week before the commencement of Proxy TIR status.

1. Benefits from the Proxy TIR Program

The group monitors and analyzes the automatically posted SIT receipts posted to NAVICP-P software programs based on proof of delivery. The group ensures accuracy of balances created by the TIRing activity and creates a Proof of Receipt TIR for the non-TIR facility. The Group also posts a proxy Proof of Delivery TIR on behalf of the non-TIRing commercial repair activity when the asset is determined “Ready for Issue” and shipped back into Naval custody. This is a presumptive or forced TIR based solely on Proof of Delivery information received from the government TIR facility. [Ref. 14:pp. 1-3]

2. Costs Associated with the Proxy TIR Program

The Proxy TIR group consists of three personnel, on full time salary, approximately $160,000. They enter transactions directly into the UICP computer so no software or additional purchases are necessary.

3. Feasibility of the Proxy TIR Program

The Proxy TIR group uses the monthly or quarterly reports provided by the contractor to establish the baseline inventory, no travel or physical inventories are conducted. From those reports the group either does “Gain By Inventory” or “SIT Loss in-transit” entries in the UCIP computer to establish the baseline. For example, if a contract repot states he has 45 assets of a particular NIIN, and the UICP computer states he has 50, six “SIT Loss in-transit” entries are made. The Proxy TIR group goal is to incorporate 125 non-TIRing activities in FY 2002.

Currently, The Proxy group is working on establishing one company that has 5000 “open SIT” documents. To date, the group has researched and entered 527 SIT receipts in a three-week period to close those 527 “open SIT” files. [Ref. 15]

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IV. CONCLUSIONS AND RECOMMENDATIONS

A. SUMMARY

The Navy has not effectively controlled its in-transit inventory, leaving significant amounts of inventory unaccounted. The Navy admits significant weaknesses exist al all levels of the “in-transit” inventory management structure. These weaknesses demonstrate inefficient and ineffective logistic management practices such as potentially buying unnecessary inventory or over/underestimating current inventory levels. These weaknesses and the problems they create are primarily a result of the failure of the Navy to follow its own policies and procedures regarding controls of “in-transit” inventory. These weaknesses undermine the Navy’s ability to measure its progress toward achieving its goal of 90-percent visibility over its material by 2004.

Stock in-Transit, specifically Stock in-Transit that goes to a Non-TIRing activity remains a major problem. Currently, two programs are in place that could solve the non-TIRing problem that faces NAVICP-P, Commercial Asset Visibility and a Proxy TIR Group.

B. CONCLUSION AND RECOMMENDATIONS

We believe the implementation of the following recommendations will improve the Navy’s overall readiness, help to prevent stock in-transit “write-offs” and assist in achieving in-transit visibility goals established by the Department of Defense.

Conclusion #1: The Navy is continually "writing-off" millions of dollars of losses to stock in-transit each fiscal year. These losses have a direct effect on military readiness of the Navy, and on future dollars being spent on repairs and new procurements.

Recommendation #1: We recommend that Naval Inventory Control Point, Philadelphia insist that Commercial Asset Visibility (CAV) program be implemented on all future Commercial Repair Facility contracts. We have proven the benefits of using the CAV program far out way the implementation costs.

Conclusion #2 There are approximately 1300 Commercial Repair Facilities currently used by the Navy, to date 339 are CAV reporters. Approximately 961 are non-TIRing activities of those 961 approximately 10-percent make up 90-percent of the Stock in-Transit "write-offs". [Ref.2]

Recommendation #2: We recommend that NAVICP-P immediately institute the CAV program or the Proxy TIR group to manage the approximate 100 non-TIRing repair facilities. Between the CAV implementation team and the PROXY TIR group, TIRing could be accomplished before the end of 2002. The immediate gain in visibility of these assets should drastically reduce stock in-transit "write-offs" and improve readiness.

C. SUGGESTED TOPICS FOR FURTHER RESEARCH

Naval Air Command and Naval Supply Command are jointly sponsoring an Enterprise Resource Planning (ERP) program. The scope of the SMART ERP pilot includes Organizational, Intermediate and Depot levels of maintenance applicable to the E-2C Aircraft and the LM-2500 Gas Turbine Engine

programs. The ERP is trying to incorporate financial management, weapon system acquisition, asset tracking, configuration management and human resources. Naval Supply Systems Command has stated that UICP and various other financial and tracking systems will be phased out by 2004 to make way for the ERP program. We suggest that an analysis be conducted on the feasibility of ERP being implemented as a cure to the stock in-transit system.

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8. Tech Francis School of Business Report, dated August 2001, "<u>Determining the Steps to Reengineer the Navy's Depot Level Repairable Program in Preparation for ERP</u>"

9. General Accounting Office Report GAO/NSIAD-98-86 dated 30 April 1998

10. General Accounting Office Report GAO/AIMD-98-56 16 March 1998

11. General Accounting Office Report GAO/NSIAD-00-61 February 2000

12. General Accounting Office Report T-NSAID –99-83 dated 25 February 1999

13. Commercial Asset Visibility (CAV) Statement of Work dated 14 September 2001

14. Non-TIR Commercial Repair Proxy TIR Initiative, Performance Work Statement dated 6 April 2002

15. Interview between Suzanne Baker, Sr. Consultant/Analyst, Resource Consultants, INC. and the author, 15 February 2002.

16. Interview between Mary Ellen Guckin, CAV Team Member, and author, 29 May 2002.

17. Commercial Asset Visibility (CAV) program support, cost benefit analysis, performed by Innovative Logistics Techniques, INC, submitted 9 May 2002.

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